Prof. Harkness, whose connexion with the Lake-district and its geology renders such a commemoration on the part of the Cumberland Association peculiarly graceful and appropriate. Mr. Goodchild has had access to many letters addressed to Prof. Harkness by distinguished geologists at home and abroad; and his long extracts from these give additional value to his memoir.

Besides the formal papers above mentioned, the part contains a set of "Local Scientific Notes and Memoranda," relating chiefly to various minor matters of natural history, some of which may have interest for students outside the district. Not content with having written the longest article in the book, the Editor is the principal contributor of these short notes, and, indeed, throughout he seems to have performed his duties in an energetic and conscientious manner, which has naturally led to the production of a most respectable and valuable volume.

MISCELLANEOUS.

On the Structure of the Otocysts of Arenicola Grubii, *Clap.* By M. E. Jourdan.

The author's investigations were made upon the small *Arenicolæ* of the coast of Marseilles and in the laboratory of that place.

By sectioning the cephalic segment of an *Arenicola* previously fixed by the injection of a solution of osmic acid of 0·50 per cent., the auditory capsules were shown in some sections and easily recognized by their little calcareous corpuscles. The otocysts are situated in the thickness of the integuments far from the hypodermis and in the midst of muscular bundles; they are fixed by the connective envelope of these bundles, which surrounds them. They are not in direct contact with the œsophageal commissures, but connected with them by several nerves. They are placed towards the dorsal surface.

The nerve-fibres composing the commissure and the brain are very fine and striated longitudinally. Nerve-cells exist throughout the length of the commissure, some in its interior, but a much greater number between the commissure and the hypodermis, often intimately connecting these two parts.

The otocysts are spherical. The diameter of their cavity is $\frac{11}{100}$ millim. and that of the sphere formed by the outer capsule $\frac{22}{100}$ millim. The thick walls consist of a layer of fusiform cells, a network of fibrillæ arranged in a dense plexus, and a connective envelope. The cells form the greater part of its thickness; they are very delicate, spindle-shaped, slightly inflated towards the middle, where the nucleus is situated; they also increase in thickness towards their inner extremity, where they are surmounted by a thick plate. The plates of all the cells are closely soldered together, forming a cuticle, which, in sections, is often detached from the cells which produced

it. No layer of vibratile cilia was to be seen distinctly, but indications of them seemed to exist upon portions which had been long in osmic acid. The cells taper at their base and at the same time bend in different directions; and these basal prolongations anastomose and form a very delicate network of fibrillæ, which, by their union, constitute at the base of the epithelial layer a regular little zone, intermediate between the nerve-fibres and the foot of the cells; a few nuclei are distinguishable in it. This plexus rests against the connective envelope, which is formed by a thin and dense membrane, presenting perforations, through which the basilar plexus enters into relations with the nerve-fibres.—*Comptes Rendus*, March 24, 1884, p. 757.

On Prof. Lindström's Remarks on Prof. Martin Duncan's Criticisms.

To the Editors of the Annals and Magazine of Natural History.

Gentlemen,—With reference to Prof. Lindström's communication to the Ann. & Mag. Nat. Hist. for March 1884, p. 162, I wish to inform you that, having sought the opinion of some naturalists well qualified to judge between Prof. Lindström and myself, I find that the language I used was not of a kind to merit the condemnation of being "by no means consistent with the quiet tone that ought to prevail in scientific discussions." It appears to them and to me that Prof. Lindström took unnecessary offence and that his tone was very uncourteous.

I can assure you that nothing was further from my thoughts than to give him personal offence; but he must remember that his communication which I wrote upon was eminently critical, and was bound sooner or later to provoke discussion. I gave the reasons for not having sooner attempted a reply. Probably when some time has elapsed Prof. Lindström will read my essay with more charitable and kindlier feelings; and it may happen that we may criticize one another as Pourtalès and I did, with advantage to ourselves and with the establishment of a sincere friendship.

Yours truly,

April 10, 1884. P. Martin Duncan.

Reproduction in Amphileptus fasciola.

By Andrew S. Parker, M.D., Ph.D.

Several years ago, while examining some Infusoria, I noticed a specimen of *Amphileptus fasciola* undergoing some curious changes, the nature of which, at that time, I did not fully appreciate, supposing them to be due to the dissolution of the animal. Recently I observed the same series of phenomena occurring in another individual, and on tracing them out more fully I found that they were due, not to the death of the Infusorian, but to what I believe is a method of reproduction not hitherto observed, or at least not described, in this group. My attention, in both instances, was attracted by a peculiar oscillating movement, the *Amphileptus* rocking from side to side, the animal remaining stationary, although its